3.0 Projects for the Mixed Waste Characterization, Treatment and Disposal Focus Area

The critical characterization problem areas for the Mixed Waste Characterization, Treatment and Disposal Focus Area (MWFA) include: determination of the types and amounts of hazardous wastes in sealed containers to permit shipment to the Waste Isolation Pilot Plant WIPP (transuranic waste), or to the appropriate waste treatment train (low-level mixed waste); real-time monitors to enable effective process control of waste treatment, and to verify that offgas and process streams have acceptably low concentrations of contaminants; and monitors for providing quality assurance that the final waste form meets relevant waste acceptance criteria for ultimate disposal.

Technologies under development for determination of type of waste and amount of contaminants in sealed containers are currently directly under the MWFA, but some of these projects will transition to Characterization Monitoring Sensor Technology Crosscutting Program in fiscal year 1997. In addition, a new project in this area will begin next year.

Five technologies for mixed waste treatment via vitrification were demonstrated by the Diagnostic Instrumentation Analysis Laboratory (DIAL) to determine melt temperature (pyrometer), melt discharge temperature (pyrometer), thermal images of the melt discharge, offgas contaminants (laser-induced breakdown spectroscopy for hazardous metals and Fourier Transform Infrared Spectroscopy for HCl and organics), heavy metals in the molten glass, and offgas flow velocity (laser doppler velocimeter). In addition, a laser spark spectroscopy continuous emission monitor (CEM) for hazardous metal emissions in offgases is under development by CMST-CP. Two new CEM development projects are expected to begin in FY97.

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